

Plant Conservation Program

Threatened by development, invasive species, climate change and other factors, at least one in every eight plant species in the world — and nearly one of three in the United States — is facing extinction. As go the plants, so too go the resources and services that we routinely take for granted such as oxygen, carbon storage, pure water, food and medicine. Just as the Pacific yew tree yielded the important anti-cancer drug, taxol, and the bark of Cinchona yielded the anti-malarial drug, quinine, other plant species may have undiscovered benefits. Conserving plant biodiversity is vital to our health and sustainability of the earth's biological systems. For those and many other reasons, plant conservation is a core principle of the Wildflower Center's mission *to increase the sustainable use and conservation of native wildflowers, plants and landscapes*.

Whether maintaining a healthy living collection on our grounds, supplying native plant information to the public or developing guidelines and performance benchmarks for land design through our Sustainable Sites Initiative™, plant conservation is the common thread that runs through all of the Wildflower Center's programs and initiatives. In addition, the Wildflower Center takes a multi-pronged approach to address specific plant conservation threats such as the harm caused by invasive species and the need to protect plants of conservation concern. Through partnerships, information sharing, seed collection and banking, rare plant monitoring and research, botanical expertise and novel citizen science-based approaches, the Wildflower Center has become the recognized leader in plant conservation in the state of Texas.



LEFT TO RIGHT: *Penstemon murrayanus*, Anderson County; *Abronia ameliae*, South Texas; *Cypripedium kentuckiense*, Center for Plant Conservation National Collection species

The Wildflower Center's conservation staff works with partners and stakeholders to address the most pressing plant conservation needs in Texas. These needs include:

1. Leadership and coordination,
2. Rare plant and invasive species monitoring and research,
3. Collecting and banking seeds for conservation and restoration,
4. Comprehensive documentation and mapping of the state's flora,
5. Dissemination of information,
6. Developing a network of citizen scientists to monitor invasive species and rare plants and, most importantly,
7. Educating landowners and the public about the importance of conserving Texas' natural heritage and biodiversity.

Over the last ten years, the Wildflower Center has developed core strengths to address these needs including developing botanical expertise, model citizen science programs and a state of the art seed storage lab. In many ways, the Wildflower Center has become the cornerstone of plant conservation activities in Texas.

Botanical Expertise

The United States will lose nearly half of its workforce with botanical expertise within the next decade. As botanical capacity declines, so, too, does our ability to conserve and protect endangered and threatened species and control invasive species. The Wildflower Center's plant conservation team has extensive knowledge of native ecosystems and landscapes and conservation issues in Texas. This botanical expertise has enabled the Wildflower Center to become a leader in native plant research, conservation and education and to understand and meet the state's conservation needs.

Citizen Science

Well-trained citizen scientists fill a gap for agencies and organizations that otherwise may not be able to achieve conservation goals due to a lack of staff and/or funding. The Wildflower Center specializes in recruiting and training citizen scientists who participate in rare and endangered species detection and monitoring, seed collection and processing, plant rescues, and the detection, monitoring and reporting of invasive species through the **Invaders of Texas** program. In 2011, the Wildflower Center will partner with the National Forest and Grasslands in Texas to cross-train citizen scientists to monitor rare plants while reporting invasive species.



Volunteer John Smith collecting seeds for the Millennium Seed Bank Project.

Seed Collection and Banking

Over the past eight years, the Wildflower Center has partnered with the **Millennium Seed Bank Project** (a global conservation project), **Seeds of Success** (a national conservation project) and multiple state agencies, private landowners and stakeholders to collect and store millions of seeds of more than 600 Texas native species. With an emphasis on high priority species for restoration projects, appropriately collected and processed germplasm (seeds) is stored in the Wildflower Center's seed bank with backup collections being maintained the National Center for Genetic Resource Preservation in Fort Collins, CO. The Wildflower Center also collects seeds for the National Park Service, US Fish and Wildlife Service, Texas Parks and Wildlife, Texas Forest Service and other organizations that need specific plant materials.

Invasive Species

Through research, outreach, statewide conferences and partnerships with state and federal agencies, non-governmental organizations, the nursery industry and other stakeholders, the Wildflower Center is leading the statewide effort to address the issue of invasive plants and pests...**the second greatest threat to biodiversity after habitat destruction.** Our signature program, **Invaders of Texas**, whereby citizen scientists are trained to detect the arrival and dispersal of invasive species and report them into a statewide mapping system, has become a national model for citizen science programs. Since its inception in 2005, the Invaders of Texas program has trained over 1,000 citizen scientists who have contributed over 12,000 invasive species observations into the statewide system.

Plant Conservation Research

The Wildflower Center partners with the Center for Plant Conservation (CPC) to perform research on federally or state listed threatened and endangered and species of conservation concern including Texas wild-rice (*Zizania texana*), Texas poppy mallow (*Callirhoe scabriuscula*), Puzzle sunflower (*Helianthus paradoxus*), Hinckley's oak (*Quercus hinkleyi*), Big red sage (*Salvia penstemonoides*), Texas snowbells (*Styrax texana*), Bracted twistflower (*Streptanthus bracteatus*), Texabama croton (*Croton alabamensis* var. *texensis*), and Comanche Peak prairie clover (*Dalea reverchonii*). Our botanical expertise, facilities and access to private and public lands uniquely positions the Wildflower Center to perform fundamental research on these species including demography and reproductive biology, monitoring and reintroductions.

Access to Public and Private Lands

Access to land is a serious impediment to plant conservation in Texas where 96 percent of the property is in private hands. Diligent attention to building relationships with landowners and its reputation as a plant conservation institution has given the Wildflower Center unprecedented access to nearly 2 million acres of private and public lands throughout Texas. While single-species protection is still the prevailing conservation strategy, reintroduction of rare and endangered species back into the wild will be the new frontier in plant conservation and Texas landowners will be critical to this effort's success.